

WHAT IS CLAIMED IS

1. A power distribution panel switch gear comprising;  
a plurality of control means provided in a power  
distribution panel so as to correspond respectively to a  
5 plurality of devices to be operated, and intended to control, in  
accordance with control commands, the driving of each said device  
to be operated;

a plurality of status input means for receiving the signals  
corresponding to the status of said plurality of devices to be  
10 operated;

an operation monitoring information creating means by which,  
in accordance with the inputs from each said status input means,  
monitoring information that includes information on at least  
either the protection or interlocking of each said device to be  
15 operated is created;

a control command output means for sending control commands  
to a specified control means in accordance with the monitoring  
information created by said operation monitoring information  
creating means, and;

20 a wireless communication means for exchanging information  
with other apparatuses.

2. The power distribution panel switch gear according to  
Claim 1, wherein said operation monitoring information creating  
means and said control command output means are multiplexed.

25 3. A monitoring and control system comprising;

an operating and monitoring command output means for sending commands relating to the operation and monitoring of a plurality of devices to be operated,

5 a plurality of control means provided in a power distribution panel so as to correspond respectively to said plurality of devices to be operated, and intended to control, in accordance with control commands, the driving of each said device to be operated,

10 a plurality of status input means for receiving the signals corresponding to the status of said plurality of devices to be operated,

an operation monitoring information creating means by which information is exchanged with said operating and monitoring command output means and, in accordance with the thus-received  
15 information and the inputs from each said status input means, monitoring information which includes information on at least either the protection or interlocking of each said device to be operated is created, and

20 a control command output means for sending control commands to a specified control means in accordance with the monitoring information created by said operation monitoring information creating means,

25 wherein said operating and monitoring command output means and said operation monitoring information creating means are connected by using wireless communication as a communication

means for information exchange between both means.

4. A monitoring and control system comprising;

an operating and monitoring command output means for sending  
commands relating to the operation and monitoring of a plurality  
5 of devices to be operated;

a plurality of control means provided in a power  
distribution panel so as to correspond respectively to said  
plurality of devices to be operated, and intended to control, in  
accordance with control commands, the driving of each said device  
10 to be operated;

a plurality of status input means for receiving the signals  
corresponding to the status of said plurality of devices to be  
operated;

an operation monitoring information creating means by which  
15 information is exchanged with said operating and monitoring  
command output means and, in accordance with the thus-received  
information and the inputs from each said status input means,  
monitoring information which includes information on at least  
either the protection or interlocking of each said device to be  
20 operated is created;

a control command output means for sending control commands  
to a specified control means in accordance with the monitoring  
information created by said operation monitoring information  
creating means;

25 a plurality of auxiliary status input means for receiving

the signals corresponding to the status of said plurality of devices to be operated, and

an auxiliary operating and monitoring command output means by which commands relating to the operation and monitoring of said plurality of devices to be operated are output in accordance with the inputs from each auxiliary status input means;

wherein said operating and monitoring command output means and said operation monitoring information creating means are connected using a serial transmission system and connection is also established by using wireless communication as a communication means for information exchange between said operating and monitoring command output means and said operation monitoring information creating means.

5. The monitoring and control system according to Claim 3 or 4, wherein, among all the elements required for the execution of information exchange between an operating and monitoring command output means and an operation monitoring information creating means, only a serial transmission system is multiplexed by applying wireless communication to at least one transmission line within said serial transmission system.

6. The monitoring and control system according to Claim 3, 4, or 5, having a maintenance information input means by which, instead of commands from an operating and monitoring command output means, information relating to maintenance is input to an operation monitoring information creating means.

7. The monitoring and control system according to Claim 3, 4, 5, or 6, having an operating and monitoring information input means by which, instead of commands from an operating and monitoring command output means, information relating to the operation and monitoring of each device to be operated is input to an operation monitoring information creating means.

8. The power distribution panel switch gear according to Claim 1, wherein an evanescent mode is applied to said wireless communication.

10 9. The monitoring and control system according to either Claim 3, 4, 6, or 7, wherein an evanescent mode is applied to said wireless communication.

10. A monitoring and control system comprising;  
an operating and monitoring command output means for sending  
15 commands relating to the operation and monitoring of a plurality of devices to be operated;

a plurality of control means provided in a power distribution panel so as to correspond respectively to said plurality of devices to be operated, and intended to control, in  
20 accordance with control commands, the driving of each said device to be operated;

a plurality of status input means for receiving the signals corresponding to the status of said plurality of devices to be operated, and

25 a control command output means for sending control commands

to a specified control means in accordance with the commands  
output from said operating and monitoring command output means;

wherein said operating and monitoring command output means  
and said control command output means are connected by using an  
5 evanescent mode as a communication means for information exchange  
between both means.

11. A monitoring and control system comprising;

an operating and monitoring command output means for sending  
commands relating to the operation and monitoring of a plurality  
10 of devices to be operated;

a plurality of control means provided in a power  
distribution panel so as to correspond respectively to said  
plurality of devices to be operated, and intended to control, in  
accordance with control commands, the driving of each said device  
15 to be operated;

a plurality of status input means for receiving the signals  
corresponding to the status of said plurality of devices to be  
operated;

a control command output means for sending control commands  
20 to a specified control means in accordance with the commands  
output from said operating and monitoring command output means,  
and

an operating and monitoring information input means from  
which information relating to the operation and monitoring of  
25 each said device to be operated is input to said operating and

monitoring command output means;

wherein said operating and monitoring command output means,  
said operating and monitoring information input means, and said  
control command output means are connected by using an evanescent  
5 mode as a communication means for information exchange between  
the three means.

12. An equipment diagnostic system comprising;

a power distribution panel switch gear;

a controller from which commands relating to the operation  
10 and monitoring of said plurality of device to be operated are  
output to said power distribution panel switch gear and the  
output commands are used to communicate with said power  
distribution panel switch gear through wireless communication;

a receiver for receiving wireless waves present in a portion  
15 of the in-panel space of said power distribution panel switch  
gear, or at the boundary section between the power distribution  
panel switch gear and the external space thereof, or in the  
vicinity of the power distribution panel switch gear, and

a diagnostic judgment device for diagnosing whether the  
20 control and monitoring signals of the wireless waves which have  
been received by said receiver are within an operating range  
acknowledged to be normal operating range.

13. The equipment diagnostic system according to Claim 12,  
wherein said diagnostic judgment device detects pr cursory  
25 indications of abnormality or deterioration by analyzing the

operation and monitoring signals existing under the normal operating conditions of said power distribution panel switch gear and judging whether the response relationship between signals and the amounts of change thereof with the elapse of time have  
5 deviated from a normal range.

14. The equipment diagnostic system according to Claim 12, wherein said diagnostic judgment device has a transmitter which can transmit test-use wireless signals in a single frequency band in addition to the wireless wave signals used in the in-panel  
10 space of said power distribution panel switch gear under the normal operating conditions thereof.

15. The equipment diagnostic system according to Claim 12, wherein said diagnostic judgment device has a transmitter which can transmit test-use wireless signals in a non-single frequency  
15 band in addition to the wireless wave signals used in the in-panel space of said power distribution panel switch gear under the normal operating conditions thereof.

16. The equipment diagnostic system according to Claim 12, wherein said diagnostic judgment device is such that when said  
20 power distribution panel switch gear is a metal-enclosed power distribution panel, the metallic plate in any section of the power distribution panel is made of a material which enables the penetration of in-panel wireless waves.

17. The equipment diagnostic system according to Claim 12,  
25 wherein, after information has been acquired from said power



distribution panel switch gear, said diagnostic judgment device stores the information into a database and outputs the information to a plant operation undertaker according to the value-judging market price indicating the degree of usefulness of  
5 the corresponding information.